

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION  
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In the Matter of )  
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Inquiry Concerning the Deployment of )  
Advanced Telecommunications Capability to All )  
Americans in a Reasonable and Timely )  
Fashion, and Possible Steps to Accelerate Such )  
Deployment Pursuant to Section 706 of the )  
Telecommunications Act of 1996 )  
)

CC Docket No. 98-146

COMMENTS OF NORTHERN TELECOM, INC.

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## SUMMARY

Nortel strongly believes that the Commission can and should take steps to help facilitate the deployment of advanced telecommunications capabilities throughout the country by allowing marketplace forces to drive the deployment and application of these technologies. Critical to such efforts will be the Commission's additional allocation and licensing of appropriate spectrum, so that the choice between wireline and wireless solutions will be based on the underlying economics of the technologies, and not because of historical regulatory and structural constraints.

With the exception of situations where competing forces impede the development of advanced telecommunications technologies, or where the public interest is significantly affected, the Commission should permit marketplace forces to ensure the development and deployment of advanced telecommunications services. The Commission should primarily focus its involvement on the barriers to network infrastructure usage and deployment, and avoid extending regulation to the application/content aspects of advanced capabilities. Second, in focusing on technology issues, the Commission should attempt to ensure that it is providing equal opportunities for all technologies. The Commission should not attempt to pick winners and losers, nor should it handicap the alternatives in an effort to "level the playing field."

Third, in assessing the options, the Commission should focus on the future, and not merely continue policies and practices of the past. Specifically, the Commission should not hesitate to replace or discard regulation that is not appropriate for a given technology, even if it means relying exclusively on marketplace forces as the only alternative to the replaced or discarded regulation. Fourth, the Commission must take steps to ensure that its regulatory requirements do not impede the full and rapid exploitation of all of the various wireline

infrastructures' potential to provide advanced telecommunications capabilities. Among other things, the Commission should accelerate proceedings to modify Part 68 so that equipment registration for new technologies does not create a bottleneck. In addition, the Commission should allow waivers of the Part 68 standards prior to the completion of the rulemaking proceedings, so long as the manufacturer's product conforms to industry consensus standards.

With respect to the general and specific questions raised by the Commission in the NOI, Nortel has included a number of detailed responses and suggestions in Part II of its Comments below. By following Nortel's suggestions, the Commission can help facilitate the availability of widespread and affordable advanced telecommunications capabilities.

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CC Docket No. 98-146

**COMMENTS OF NORTHERN TELECOM, INC.**

Northern Telecom Inc. ("Nortel") hereby responds to the questions raised in this important Notice of Inquiry addressing the critical goal of ensuring that advanced telecommunications capabilities are deployed throughout the country on a timely and affordable basis.<sup>1/</sup> As discussed in greater detail below, Nortel believes that the Commission can and should take steps to help facilitate this result, including most importantly, allowing marketplace forces to drive the deployment of these advanced capabilities. Critical to such efforts will be the allocation and licensing of appropriate spectrum so that the choice between wireline and wireless solutions will be based on the

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<sup>1/</sup> *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, CC Docket No. 98-146, FCC 98-187, released August 7, 1998 (hereafter cited as "NOI").

underlying economics of the technologies, and not because of historical regulatory and structural constraints.

## I. INTRODUCTION

Nortel is keenly interested in advanced telecommunications capabilities. It is the leading global supplier, in more than 100 countries, of digital telecommunications systems to businesses, universities, local, state and federal governments, the telecommunications industry, and other institutions. The company employs more than 30,000 people in the United States in manufacturing plants, research and development centers, and in marketing, sales and service offices across the country.

Nortel is also heavily involved in the development of wireless solutions to meet today's and tomorrow's communications needs. Nortel's Wireless Networks division is one of three major network businesses based in Richardson, Texas, where Nortel employs more than 8,000 people. Nearly 3,800 of those employees are in Wireless Networks, which addresses global growth markets for digital cellular, PCS, and fixed wireless access ("FWA"), which can be used to provide advanced telecommunications capabilities. As the Commission indicates in the *NOI*, wireless technologies are an important component of an advanced telecommunications infrastructure, and not merely an adjunct to mobile capabilities.<sup>2/</sup>

Nortel is particularly well qualified to address the technology issues permeating the *NOI*, insofar as it manufactures both wireline and wireless communications systems for delivering advanced telecommunications capabilities. As a major supplier of switching,

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<sup>2/</sup> *NOI* at ¶ 1.

transport, access and wireless systems (including all traditional and emerging technologies) to most sectors of the telecommunications industry, Nortel is well-positioned to understand the evolution, planning and deployment puzzle facing the regulated, unregulated, embedded and competitive players in the market. Nortel is able to convert technologies and products into effective solutions and differentiated service platforms without undue bias, and render objective advice to operators, investors, planners (and regulators) trying to steer their way through the complex array of options and alternatives.

As an initial matter, Nortel shares the Congress' goal of fostering the availability and affordability of advanced telecommunications capabilities to all Americans. As the *NOI* recognizes, advanced capabilities have the potential to improve productivity and the quality of life.<sup>3/</sup> Indeed, there are important roles for the Commission to play in this effort. On the other hand, Nortel believes there are limits on what the Commission should do in the name of facilitating advanced telecommunications capabilities.

First, the Commission should focus its involvement on the barriers to network infrastructure usage and deployment, and avoid extending regulation to the application/content aspects of advanced capabilities. For example, the *NOI* raises questions concerning the "Internet regulatory model" ¶ 80), and suggests that some aspects of the Internet (such as peering arrangements) may come under regulation (¶ 79). Nortel urges the Commission to minimize any such regulatory intrusions, and instead to rely to the maximum extent possible on marketplace forces to drive the development of advanced telecommunications capabilities.

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<sup>3/</sup> *NOI* at ¶ 1.

Second, in focusing on technology issues, the Commission should attempt to ensure that it is providing equal opportunities for all technologies. The Commission should not attempt to pick winners and losers, nor should it handicap the alternatives in an effort to "level the playing field." The *NOI* recognizes that a multitude of technologies can support advanced telecommunications capabilities, including wireline (copper, fiber and coaxial cable) and wireless (terrestrial fixed, terrestrial mobile and satellite). Advances in technology are rapidly broadening the application boundaries and the availability of competing solutions. Consumers and service providers should be the ones choosing which advanced capabilities to acquire and through which medium they are delivered.

Third, in assessing the options, the Commission should focus on the future, and not merely continue policies and practices of the past. The current infrastructure reflects a century of wireline history incorporating subsidies, incremental costs, dominant/monopoly carriers and pervasive regulation. More recently, the Commission has adopted allocations, rules and policies to enable fixed wireless technology to take root and grow as competitive offerings, because wireless technologies have historically been confined to premium mobile services (that could not be provided by wireline technology). Milliwave broadband wireless access services, including 18/24 GHz (DEMS), 28 GHz (LMDS) and 38 GHz spectrum have been opened for fixed wireless access and broadband wireless access applications. To date, these offerings have focused on medium and large business applications, and have added to the competitiveness of that sector.<sup>4/</sup>

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<sup>4/</sup> Analogously, the Commission has helped foster competition to coaxial cable in the market for broadband video services when it allocated spectrum for Direct Broadcast Satellite services, which now compete with cable television.

Nortel believes that an allocation of spectrum for FWA applications can likewise enhance competition for residential and small business services, including advanced telecommunications capabilities. Nortel also believes that an allocation for FWA would well serve the public interest because of other attributes: FWA can eliminate the dependence on copper to provide the only last ten mile connectivity; FWA is well suited for non-metropolitan areas, where it eliminates the need to invest in high cost, less flexible assets for these less densely populated areas; FWA's relatively lower costs in non-metropolitan areas allows new entrants to offer service, and/or allows the incumbent carrier to compete effectively against the new entrants (who are not burdened with service obligations and cross subsidies).

Fourth, the Commission must take steps to ensure that its regulatory requirements do not impede the full and rapid exploitation of all of the various wireline infrastructures' potential to provide advanced telecommunications capabilities. Twisted copper pairs, through new technologies such as xDSL, can support high-speed communications.<sup>5/</sup> Utilities' power lines can be used to provide advanced telecommunications capability (as evidenced by Nortel's Digital PowerLine™ products). Coaxial cable plant, now used for one-way video distribution, can be reconfigured to provide two-way broadband services. The Commission should seek to unleash the full power of these embedded infrastructures. Among other things, the Commission should accelerate proceedings to modify Part 68 so that equipment registration for new technologies does not create a bottleneck. One future approach to limiting bottlenecks is to implement the concept of Supplier's Declaration of Conformity

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<sup>5/</sup> Nortel observes that the Commission is separately addressing several issues related to these technologies in its companion Notice of Proposed Rulemaking. *Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket No. 98-147, FCC 98-188, released August 7, 1998.

("SDOC"), as opposed to third-party certification in establishing compliance to requirements such as Part 68.<sup>6/</sup> The SDOC process is presently being successfully used in countries, such as Australia, and it is the basis of the new Radio and Telecommunications Terminal Equipment (RTTE) Directive that is being considered for adoption by the European Community (EC).<sup>7/</sup> Use of the SDOC process will significantly reduce the cost and delay impediments to rapid market deployment for new technology that are due to the standardization, third party testing and administrative procedures. In addition, the Commission should allow waivers of the Part 68 standards prior to the completion of the rulemaking proceedings, so long as the manufacturer's products are compatible with industry consensus standards.

## II. RESPONSES TO QUESTIONS RAISED IN THE NOI

In order to assist the Commission in gathering information and considering all of the steps it should take, the *NOI* raises a number of general and specific questions. Nortel responds below to some of those questions where our experience and expertise can assist the Commission in this critical endeavor:

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<sup>6/</sup> TIA has proposed moving towards the SDOC process in its comments and response to the FCC's Notice of Proposed Rulemaking ("NPRM") in the matter of the *1998 Biennial Regulatory review B Amendment of Parts 2, 25, and 68 of the Commission's Rules to Further Streamline the Equipment Authorization Process for Radio Frequency Equipment, Modify the Equipment Authorization Process for Telephone Terminal Equipment, Implement Mutual Recognition Agreements and Begin Implementation of the Global Mobile Personal Communications by Satellite ("GMPCS") Arrangements*, GEN Docket 98-68, FCC 98-62, released May 18, 1998.

<sup>7/</sup> The current draft of the RTTE Directive appears in the Official Journal of the European Communities (in July 1998) and has been submitted to the European Parliament for second reading.

**How should "broadband" and "high-speed" be defined? (NOI ¶¶ 13-14)**

Nortel does not believe it would be fruitful for the Commission to attempt to codify or specify these terms, which are derived from traditional definitions based on particular technologies. There are already numerous definitions that have been developed in different contexts and for different purposes. "Broadband" or "high-speed" labels often vary, depending on whether the applications are wireline versus wireless, or packet switched versus circuit switched. Nortel does not perceive any need (or even the ability) to develop a single, codified definition. Advances in technology and user needs mean that today's "broadband" soon becomes tomorrow's "narrowband." Nortel urges the Commission to adopt regulations that are independent of bandwidth or transmission speeds. Rather than specifying minimum speeds or capacity, the Commission's regulations should avoid impeding the deployment of increasingly higher speeds and alternate technologies as a means of providing advanced telecommunications capabilities.

**Are CLECs utilizing and installing technologies that will bypass incumbent LEC's essential services such as the local loop? (NOI ¶ 31).**

Nortel markets a range of wireline and wireless technologies that serve as an alternative means of providing essential aspects of the incumbent carriers' network, including the local loop. Nortel believes that a competitive carrier's decisions regarding whether, when and which technologies to deploy should be driven by the underlying economics of the technologies and marketplace forces. Those decisions should not be grounded in regulatory biases, either intentional or unintentional.

Nortel believes that FWA provides an economic and functional alternative to copper local loops in the United States, as is currently happening abroad. Importantly, FWA can help fill a current void in a U.S. market segment relevant to this proceeding -- residential

and small business customers<sup>8/</sup> -- because of the robust capabilities and the relatively low cost of deployment in less dense settings. Carriers, both Incumbent Local Exchange Carriers ("ILECs") and Competitive Local Exchange Carriers ("CLECs"), have expressed a strong interest in Fixed Wireless Access technology that Nortel and other U.S. vendors offer in markets outside the United States. Notwithstanding the capabilities and economics of FWA, however, LECs in the United States are not deploying FWA technology as an alternative to the copper plant for "last mile" or "last ten mile" connectivity. That technology is only being utilized presently in other countries due to the absence of a suitable spectrum allocation in the United States.

However, given the ready availability of FWA technology as an "off-the-shelf" product, the Commission could enable the immediate deployment of alternative FWA facilities through the relatively simple step of allocating spectrum. The spectrum authorities in Europe, South America and Canada have been in the process of harmonizing their FWA activities around various parts of the 3.4-4.2 GHz band. In addition, the U.S. Government supported the December 1996 CITEL PCC.III Recommendation to harmonize the 3.4-3.7 GHz band for FWA technology in the Americas (although it was noted in that recommendation that this band may not currently be available for private sector use within the United States because of government radar allocations). In addition, Nortel understands that the National Telecommunications and Information Administration ("NTIA"), and the Mexican and Canadian authorities have initiated discussions concerning the various transborder coordination issues involved in FWA allocations in the 3.4-3.7 GHz band. In a related vein, the Department of Defense ("DoD") has authorized the DoD's Joint Spectrum

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<sup>8/</sup> For large business customers generally, Nortel does not perceive any shortage of high capacity connectivity at the present time.

Center ("JSC") to analyze the potential for interference between DoD radars and Nortel's Proximity I FWA system, with a view, *inter alia*, to potentially sharing the 3.4-3.7 GHz band within the United States. Subject to favorable and satisfactory results from this JSC analysis, it appears the Commission could quickly take steps that would facilitate CLEC (as well as ILEC) deployment of forward looking technologies that can serve as an alternative to copper local loops for the provision of advanced telecommunications capabilities.

**Will technology deployment outside the United States that is compatible with that used in the United States accelerate the deployment of advanced telecommunications capability in the United States? (NOI ¶ 36)**

International harmonization of standards is becoming an increasingly critical factor in new technology deployment. The Research and Development ("R&D") cost of adapting a product to different national standards is typically very high. This "adaptation cost" produces no added functionality for the user but merely delays making benefits available to users in non-harmonized countries. Such resources would be much better spent on advancing the product's capabilities. In addition, since markets are now global, the option of initial deployment in one market before introduction in global markets because that market is more advanced is generally no longer available. The Commission can facilitate expanded markets, faster product deployments, and better use of scarce R&D resources by more aggressively working toward global harmonization of spectrum allocations, product certifications, and interface standards.<sup>2/</sup>

Nortel also believes that, with respect to global harmonization, the view that foreign countries always lag the United States in telecommunications technology and that the United

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<sup>2/</sup> The United States is moving in this direction with its relevant endorsement of Mutual Recognition Agreements ("MRA" or "MRAs"). See e.g., U.S./E.U. MRA (signed May 14, 1998) and APEC MRA (signed June 6, 1998).

States is the source of the best ideas, is no longer valid. Now that the liberalization of telecommunications is truly a global phenomenon, protecting parochial interests is not always in the long-term interest of the United States. In some cases, new technologies are being deployed in foreign countries before they are deployed in the United States.

By way of example, FWA technology is being deployed now in many countries outside the United States, including Canada, Finland and Australia. The United States can learn and benefit from this technology. Indeed, the United States can regain its leadership in the telecommunications access marketplace by using FWA to deploy advanced communications in rural areas and other less dense markets. Making FWA possible in the United States will directly benefit the rural territories by enhancing their communications capabilities, and will additionally provide export opportunities as U.S.-developed advanced capabilities are integrated into a wireless communications infrastructure that is well-suited to countries with less robust telephone networks.

**What regulatory barriers exist to greater, more widespread deployment of high-bandwidth wireless systems? In underserved and rural areas? Is additional spectrum needed? (NOI ¶ 43)**

As mentioned earlier, Nortel believes there is a need for additional spectrum to serve residential and small business subscribers via FWA technologies as a means of providing new or competitive connections for advanced telecommunications capabilities. Spectrum in the 3.5 GHz range is well suited for underserved and rural areas, as well as urban territories, because it has reasonably good propagation characteristics (particularly as compared to milliwave technologies such as LMDS at 28 GHz). To support a reasonable number of users per base station, multiple competing operators, and broadband services, Nortel recommends

the harmonized band plans now being considered by many foreign administrations under the auspices of CITEL and the ITU.<sup>10/</sup>

Based on its global experience, Nortel strongly believes that rural areas need to use the same technology as urban areas so they can obtain the benefits of volume deployments in larger markets. Designing competitive systems solely for those less densely populated markets in the United States would be difficult and inefficient. Consumers expect and need the same services and capabilities, but the market volumes are simply not there to support the development and deployment of such unique technologies. Basic Exchange Telephone Radio Systems ("BETRS")<sup>11/</sup> is a good example of the limited capabilities and relatively high costs that will result when a wireless service is designed strictly to operate in U.S. rural deployments. In fact, this is an area where the United States should be open to solutions deployed in foreign markets, some of which have much larger rural areas. Failure to address this issue will result in rural consumers falling even further behind their urban counterparts.

**Utilities -- are they promising entrants into advanced services? What technology would be employed? (NOI ¶ 48)**

Utilities are a natural participant in the delivery of advanced telecommunications capability. They have critical rights-of-way to deploy advanced network facilities. In fact, utilities have been deploying fiber along power line routes in the United States for years. In addition, power line transmission towers are attractive for supporting wireless antennas. Also, utilities have an established relationship with consumers and billing systems that can be leveraged in the telecommunications arena, thereby creating economies of scope.

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<sup>10/</sup> More detailed information with regard to these activities and allocations (including the U.S. government positions) is available on the ITU web site at: <http://www.itu.int/was/docs/index.html>.

<sup>11/</sup> 47 C.F.R. §§ 22.702, 22.757 and 22.759.

In addition to power utilities' ability to overlay fiber optic networks, Nortel will soon be introducing a new consumer service, called Digital PowerLine™, to address high speed Internet access demand in the United States. This system was announced in the U.K. in October 1997, and is currently completing consumer trials. This network solution, using the utilities' power lines, connects residences and small business to Utility Intranets and thus to the World Wide Web. This development is opening up a new economical option to consumers wanting a higher rate of interaction with the Web to locate information and complete transactions.

This data-over-power lines product utilizes current electricity lines into the home, and allows the reuse of U.S. infrastructure for new services such as Internet access, home banking, energy monitoring, and more. The Digital PowerLine product delivers a data stream at 1 Mb/s to the consumer, approximately 35 times the speed of the popular 28.8 Kb/s analog modems in use today. The utility industry is excited about this new opportunity to help maintain customer satisfaction by meeting the fastest growing demand for a new service since television, the Internet.

**What is the potential for CMRS (including 3<sup>rd</sup> generation systems) to offer advanced capability in both fixed and mobile applications? Can advanced capability be offered in spectrum below 2.5 GHz especially as a substitute for wireline last mile? Is any of this spectrum unused? (NOI ¶ 50)**

Nortel believes that wireless services can play an important role in the deployment of advanced telecommunications capabilities. The issue for suburban and rural application of advanced services is not so much "last mile" (which implies a ubiquitous fiber/copper feeder network with broadband capabilities is already in place) as "last ten miles." In these situations, an excellent solution to the absence of advanced services would be wireless based

technologies (including "mobile" and/or "fixed" services) using frequencies below 5 GHZ with relatively high power levels (30-60 watts EIRP).

As evidenced by actual deployment, FWA technologies can provide this capability. It is less clear that third generation mobile systems can accommodate these needs. FWA technologies are already developed, and have been deployed in numerous markets outside the United States (where wireline penetration is much less than in the United States). These same technologies could readily be adapted for use in this country, thereby benefiting competition and the widespread availability of advanced capabilities at affordable rates in many parts of the United States.

Second generation (2G) and third generation (3G) mobile technologies can (and likely will) provide broad deployment of good quality, reliable voice service and low speed data/telemetry applications. However, Nortel does not believe that 2G and 3G mobile technologies will match the increasing speeds, costs or reliability of wireline and optimized FWA technologies for higher speed/bandwidth data ultimately desired by consumers. Spectrum for 2G and 3G services needs to be focused at or below 2 GHZ to provide propagation characteristics necessary to meet the mobility requirements for those wireless services, and the Commission must first ensure that existing CMRS allocations are fully utilized/deployed (with a bias towards mobile service) before re-allocating additional (scarce) spectrum to this task.

Adapting 2G and 3G technologies (which are designed for a different, mobile application) to fixed, broadband applications would be costly. Experience teaches us that rural markets cannot economically support special products and spectrum allocations which

are unique to those rural applications.<sup>12/</sup> However, wireless technologies could provide an efficient means of extending broadband capabilities to rural areas if operators and manufacturers are able to take advantage of volume deployments in other nearby bands or other countries, and thus provide a means whereby these rural areas could keep up with their metropolitan counterparts in the availability of advanced services and consumer choice. Nortel therefore continues to urge the Commission to allocate spectrum for FWA.

Nortel does not foresee any other wireless services providing such advanced telecommunications capabilities in the near term. MDS and ITFS, which operate at 2.5 GHZ, have the potential to provide advanced capability as indicated in the current open proceeding on this subject.<sup>13/</sup> However, the existing structure of this spectrum allocation (including usage and channelization) poses challenges for manufacturers to build cost effective products to serve this band. Nortel is submitting suggestions to the recently established System Interoperability Group (chaired by Lauriston Hardin), and is prepared to invest in product development for this band if the deployment and interference/coordination rules can be simplified to a point that would support volume manufacture. Unfortunately, we note that there are more than fourteen current vendor consortia addressing this band with a combination of OEM solutions, which does not augur well for a mature, stable, financially sound supplier and operator environment.

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<sup>12/</sup> For example, BETRS has not proven to be an economical means for providing service in rural areas except in isolated situations.

<sup>13/</sup> *Amendment of Parts 1, 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions*, 12 FCC Rcd 22174 (1997).

**Private vs. Public systems: Are there efficiency problems that can be corrected through standardization of technology interfaces? (NOI ¶ 52)**

There are always improvements to be made in standardization and interconnectivity of technology, especially as technology advances. Nortel believes, however, that the industry and market forces should be allowed to address such standards issues. The Commission can assist by removing barriers to international harmonization as discussed above, but it would be premature for the Commission to otherwise get entangled in the standards development process at this time.

The Commission should not attempt to impose standard interface specifications on all communications networks (both public and private). As an example, whereas mobile services must have a minimum number of standard air interfaces (to enable roaming and handoff), wireline and fixed wireless services would in fact be restricted by the imposition of standardized transmission interfaces. The interfaces that matter to consumers for fixed services are the RJ-11 (POTS, CLASS, ADSI, etc.) and RJ-45 (ISDN and 10 BaseT/100 Base T Ethernet and TCP/IP) interfaces that connect to their standard (inexpensive) telephones, fax machines, modems and computers.

Operators need standard interfaces to their core networks, including Mobile and Fixed switches, ATM, Frame Relay or IP hubs and routers. The industry, without government intervention, has been able to meet these requirements. By way of example, Nortel has been able to deploy its 1 Meg Modem product rapidly and successfully because it was designed to operate with varying network configurations. The option of awaiting standardization of network interfaces (such as occurred slowly for ISDN standards), rather than working around

standardized customer interfaces, would delay the availability of new technologies.<sup>14/</sup> In a similar vein, there can be a rapid deployment of FWA systems that provide standardized customer interfaces for advanced services, but it will take substantially longer for the development of 3G air interface standards, which support such advanced services.

**Given the generally slow deployment of advanced capability in rural areas, is lack of technology a cause of a shortage of supply? (NOI ¶¶ 66-67)**

As reflected in the record in the Commission's Universal Service proceeding, rural areas typically suffer from a high cost of telecommunications infrastructure deployment because of the rugged terrain and the less densely populated territories served by rural carriers. However, recent advances in wireless technologies significantly reduced its cost relative to copper and other wireline technologies, and now make fixed wireless technologies a very attractive alternative to provide service in unserved and underserved areas.<sup>15/</sup> This FWA technology is currently being deployed in other countries and could be deployed rapidly and economically in the United States if spectrum were made available around 3.5 GHz. While this band is currently assigned for military use in the United States, preliminary interference studies suggest that FWA systems such as Nortel's Proximity I could coordinate the spectrum with the military radars now using this band. Nortel thus urges the Commission to implement an allocation and spectrum sharing arrangement with the DoD in the 3.5 GHz band as a means of fostering the rapid and affordable availability of advanced

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<sup>14/</sup> Nortel is also concerned by the potential for delay if a Commission rulemaking is necessary to adopt and/or modify standards. In those cases, the Commission should also grant waivers under appropriate circumstances so that the Commission's processes are not a cause for unnecessary delay. See, Nortel Comments on the Paradyne Request for Waiver of Part 68, File No. DA 98-1358, filed August 7, 1998.

<sup>15/</sup> For a more detailed discussion of this issue, see Nortel Comments in Forward-Looking Mechanism for High Cost Support for Non-Rural LECs, CC Docket Nos. 96-45 and 97-160, filed September 24, 1997.

telecommunications technologies in rural areas. As Nortel indicated earlier, in order for rural areas to take advantage of economies of scale, those systems need to utilize products designed for volume markets, rather than custom solutions. FWA technologies now being widely deployed in other countries make such economies of scale possible.<sup>16/</sup>

Notwithstanding the benefits of deploying FWA technology in rural areas, the Commission should still take full advantage of the existing copper telecommunications infrastructure. Integrated solutions, like Nortel's 1 Meg Modem, can enable cost effective deployment of xDSL services in many rural areas utilizing the existing infrastructure without major upgrade effort.

**What, if any, other regulation would be needed? (NOI ¶ 82):**

As a general matter, Nortel believes that marketplace forces work better than regulatory intervention in speeding the deployment of advanced telecommunications capabilities. There are, however, some steps the Commission can and should take. In addition to the suggestions enumerated above (including allocating spectrum for FWA), there is also a need to improve the regulatory process for the registration of new customer premises equipment under Part 68 in order to prevent the Commission's regulatory processes from becoming a bottleneck to the deployment of new technology. Nortel believes that a conditional waiver policy should be utilized to support the early deployment of new technologies such as xDSL.<sup>17/</sup>

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<sup>16/</sup> For a specific example, please reference to Industry Canada's Policy located at <http://strategis.ic.gc.ca/SSG/sf01621e.html>.

<sup>17/</sup> See, Nortel Comments on Paradyne Petition for Waiver of Part 68, DA 98-1358, filed August 7, 1998.

### III. CONCLUSION

Nortel welcomes the Commission's efforts in initiating this proceeding to determine how best to ensure that advanced telecommunications capabilities are made available to all Americans at affordable prices. As explained above, consumer demand combined with advances in technology -- driven by marketplace forces -- will largely be responsible for the unfolding of this desired scenario. As a result, where there are no conflicting interests and public interests are not at issue, the Commission should "stay out of the way." The FCC should be prepared to intervene, however, where existing FCC regulations or procedures are

slowing down the deployment of advanced telecommunications capabilities. For example, the Commission should promptly initiate and complete rulemakings to address new technologies where necessary (e.g., Part 68), and issue waivers under appropriate circumstances in the interim. There are important steps the Commission can take to facilitate the rapid deployment of advanced telecommunications capabilities, including the allocation of spectrum and the removal of unnecessary regulatory obstacles and delays.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Stephen L. Goodman", is written over a horizontal line.

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